

Max's Mathematical Meadow Challenge

Learning objective: Calculate the area and perimeter of rectilinear shapes and compound shapes, and solve multi-step problems involving measurement.

Help Max the monkey calculate the measurements for his new garden plots. Work carefully to ensure the shapes are perfect! Use the word bank to help you remember key terms.

Answer Key: 1. A (16cm); 2. True; 3. 24; 4. B (36cm²); 5. 20m; 6. False; 7. 18cm; 8. C (42cm²); 9. True; 10. 14cm. Note: For Q3, $6 \times 4 = 24$. For Q5, $(5+5+5+5)=20$. For Q7, add all exterior sides. For Q8, split into two rectangles ($6 \times 4 = 24$, $3 \times 6 = 18$, $24+18=42$).

Word bank: Perimeter · Area · Rectilinear · Square centimetres · Dimensions · Compound shape

1. Max has a square plot with sides of 4cm. What is the perimeter? A) 16cm*, B) 8cm, C) 12cm, D) 20cm (1 mark)

2. True or False: The area of a rectangle is calculated by adding all the sides together. (1 mark)

3. A rectangular vegetable patch measures 6m by 4m. What is the area in square metres? (Single word answer) (1 mark)

4. What is the area of a rectangle with a width of 4cm and a length of 9cm? A) 26cm², B) 36cm²*, C) 13cm², D) 32cm² (1 mark)

5. A square plot has a side length of 5m. What is the total perimeter? (Single word answer) (1 mark)

6. True or False: A rectilinear shape is a shape where all the corners are right angles. (1 mark)

7. An L-shaped path has sides of 3cm, 2cm, 3cm, 2cm, 6cm, and 4cm. What is the perimeter? (Single word answer) (1 mark)

8. Max creates a compound shape made of two rectangles: one 6cm x 4cm and one 3cm x 6cm. What is the total area? A) 30cm², B) 36cm², C) 42cm²*, D) 48cm² (1 mark)

9. True or False: Two different rectangles can have the same area but different perimeters. (1 mark)

10. If a rectangle has an area of 28cm^2 and a length of 7cm , what is its width? (Single word answer) (1 mark)

Draw: Draw a rectilinear 'L-shaped' garden plot on a grid. Label the side lengths and calculate the total area and perimeter for Max to review.



Extension challenge: 1. Explain why calculating the perimeter of a compound shape might be trickier than a simple rectangle. 2. Compare and contrast the units used for area (cm^2) versus perimeter (cm). 3. Justify why a square with a perimeter of 20cm must have an area of 25cm^2 . 4. What might happen to the area of a rectangle if you doubled both the length and the width? 5. Design a garden layout with an area of exactly 50cm^2 and calculate its perimeter. 6. If fencing costs $\pounds 2$ per metre, how much would it cost to enclose a rectangular plot measuring 8m by 5m ?